

AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

1. (Previously Presented) An ocular scleral prosthesis comprising
an elongated body adapted to be implanted in an elongated pocket surgically formed within
scleral tissue of an eye, the pocket being formed in the zone of the globe of the eye exterior to the
ciliary body and extending generally circumferentially completely around the lens of the eye, the
pocket having a base comprised of inner layers of the scleral tissue, a flap formed from outer layers
of the scleral tissue, an anterior margin and a posterior margin,
wherein the body and any members that are attached to the body when the prosthesis is
implanted have an aggregate length less than a circumference of a circle concentric with the lens and
intersecting an innermost portion of the anterior margin,
the elongated body having a first surface and a second surface opposite the first surface, the
first surface and the second surface being adapted to respectively contact the base and the flap of the
scleral pocket when implanted,
the first surface and the second surface being separated by a distance sufficient to elevate the
flap relative to the base and exert outwardly directed traction on at least the anterior margin of the
pocket when the prosthesis is implanted.

Claims 2–60 (Canceled)

61. (Previously Presented) A prosthesis adapted for contact with the sclera of an eyeball, the prosthesis comprising:

an elongated body having a first end and a second end, wherein the first end is linearly more distal from the second end than from any other portion of the body and wherein the first and second ends are unattached to any other prosthesis when the prosthesis is implanted, the body including a first surface and a second surface opposite the first surface, the first surface and the second surface each contacting a portion of the sclera when the prosthesis is implanted; and

means for expanding the contacted sclera when the prosthesis is expanded to increase the effective working distance of the ciliary muscle of the eyeball.

62. (Previously Presented) The prosthesis set forth in Claim 61 wherein the expanding means is one of a ridge and a crest.

63. (Previously Presented) The prosthesis set forth in Claim 61 wherein one of the first surface and the second surface is generally smooth and is adapted to contact ocular tissue within a pocket surgically formed within the sclera of the eyeball when the prosthesis is implanted.

64. (Previously Presented) The prosthesis set forth in Claim 61 wherein the prosthesis is one of generally rectangular, curved, and elongated.

65. (Previously Presented) The prosthesis set forth in Claim 61 wherein one of the first surface and the second surface comprises an anterior edge and a posterior edge, and the expanding means has a maximum height above the elongated body of one of: (i) intermediate between the anterior edge and the posterior edge, (ii) less than halfway from the anterior edge to the posterior edge, and (iii) at the anterior edge.

66. (Original) The prosthesis set forth in Claim 61 comprises a planform having a first dimension and a second dimension.

67. (Previously Presented) The prosthesis set forth in Claim 66 wherein one of the first surface and the second surface is planar.

68. (Previously Presented) The prosthesis set forth in Claim 66 wherein the expanding means extends along at least a portion of the first dimension.

69. (Previously Presented) The prosthesis set forth in Claim 66 wherein the first dimension is about five (5) millimeters and the second dimension is about two (2) millimeters.

70. (Previously Presented) The prosthesis set forth in Claim 61 wherein the prosthesis is made of one of a physiologically acceptable metal, a ceramic material, a synthetic resin, a reinforced composite material, and a flexible material.

71. (Withdrawn) The prosthesis set forth in Claim 61 wherein said the prosthesis is provided with an internal cavity.

72. (Withdrawn) The prosthesis set forth in Claim 71 wherein said the internal cavity is filled with one of a fluid and a gel.

73. (Withdrawn) The prosthesis set forth in Claim 71 wherein said the internal cavity is filled with one of water, a saline solution, an oil, silicone, collagen, and gelatin.

74. (Previously Presented) A prosthesis for surgical implant into a pocket in the sclera of an eyeball, the prosthesis comprising an elongated body having a first end and a second end adapted to be free of contact with any other prosthesis when the prosthesis is implanted, wherein every portion of the body between the first and second ends is spaced apart from the first end by a linear distance less than a linear distance between the first and second ends,

the body including a first surface and a second surface, the first surface and the second surface being adapted to contact the sclera when the prosthesis is implanted, the prosthesis configured to apply an outward force on the scleral pocket when implanted to elevate an overlying portion of the sclera to increase the effective working distance of the ciliary muscle of the eyeball.

75. (Previously Presented) The prosthesis set forth in Claim 74 wherein the elongated body is generally rectangular.

76. (Previously Presented) The prosthesis set forth in Claim 74 wherein the elongated body is arched along a long dimension thereof.

77. (Previously Presented) The prosthesis set forth in Claim 74, wherein one of the first surface and the second surface comprises an anterior edge and a posterior edge, and the prosthesis has a maximum height located intermediate between the anterior edge and the posterior edge.

78. (Previously Presented) The prosthesis set forth in Claim 74, wherein one of the first surface and the second surface comprises an anterior edge and a posterior edge, and the prosthesis has a maximum height located between the anterior and posterior edges less than halfway from the anterior edge toward the posterior edge.

79. (Previously Presented) The prosthesis set forth in Claim 74, wherein the body has a planform having a first dimension longer than a second dimension, wherein one of the first surface and the second surface is planar across the planform and contacts the sclera along the second dimension when the prosthesis is implanted.

80. (Previously Presented) A scleral prosthesis comprising a body adapted for contact with the sclera of an eye in the region of the ciliary body when implanted, the body having a first end, a second end and a ridge projecting above surrounding portions of the body, the ridge located between first and second edges of the body and extending along a majority of a length of the body from the first end to the second end, the ridge having a prescribed shape operating to exert a force with respect to the contacted eye to expand the sclera in the region of the ciliary body when implanted.

81. (Previously Presented) The scleral prosthesis set forth in Claim 80 wherein the prescribed shape exerts a force with respect to the eye to increase the working distance of the ciliary muscle of the eye.

82. (Previously Presented) The scleral prosthesis set forth in Claim 80 wherein the prescribed shape exerts a force with respect to the eye to increase the amplitude of accommodation of the eye.

83. (Previously Presented) The scleral prosthesis set forth in Claim 80 wherein the body further has an outer surface that is adapted to contact ocular tissue within a pocket surgically formed within the sclera of the eye.

84. (Previously Presented) The scleral prosthesis set forth in Claim 80 wherein the prosthesis has a generally rectangular planform.

85. (Previously Presented) The scleral prosthesis set forth in Claim 83 wherein the body further has a base adapted to contact scleral tissue between anterior and posterior margins of the pocket when the prosthesis is implanted within the pocket, the base contacting scleral tissue along a width of the base when the prosthesis is implanted.

86. (Previously Presented) The scleral prosthesis set forth in Claim 83 wherein the base further comprises a planform having a first dimension longer than a second dimension, a first surface and a second surface, and a height, the ridge formed by or projecting from the first surface, the second surface contacting scleral tissue across the planform when the prosthesis is implanted within the pocket.

87. (Previously Presented) The scleral prosthesis set forth in Claim 86 wherein the second surface of the base is planar.

88. (Previously Presented) The scleral prosthesis set forth in Claim 86 wherein the ridge extends along at least a portion of the first dimension of the base and is formed by an intersection of a first portion of the first surface that extends substantially along the height of the body with a second portion of the first surface that slopes across both the planform and the height.

89. (Previously Presented) The scleral prosthesis set forth in Claim 86 wherein the first dimension is about five millimeters and the second dimension is about two millimeters.

90. (Previously Presented) The scleral prosthesis set forth in Claim 80 wherein the prosthesis is made of one of a physiologically acceptable metal, a ceramic material, a synthetic resin, a reinforced composite material and a flexible material.

91. (Withdrawn) The scleral prosthesis set forth in Claim 80 wherein said the prosthesis is provided with an internal cavity.

92. (Withdrawn) The scleral prosthesis set forth in Claim 91 wherein said the internal cavity is filled with one of a fluid and a gel.

93. (Withdrawn) The scleral prosthesis set forth in Claim 91 wherein said the internal cavity is filled with one of water, a saline solution, an oil, silicone, collagen, and gelatin.

94. (Previously Presented) A scleral prosthesis comprising a body adapted for contact with the sclera of an eye in the region of the ciliary body, the body having (i) a base member having an elongated planform with a major dimension, a minor dimension, an inner major surface and an outer major surface, the body being adapted to contact ocular tissue of the eye in the region of the ciliary body when the prosthesis is implanted, and (ii) a ridge member on the outer major surface of the base member and along the major dimension of the base member and spaced apart from edges of the base member wherein the ridge member, when the prosthesis is implanted in the eye, applies a force to the contacted ocular tissue to thereby expand the sclera in the region of the ciliary body,
wherein the major dimension is less than a circumference of a circle concentric with the lens of the eye and having a radius equal to a distance from the center of the lens to a surface of the body member that is closest to the lens when the prosthesis is implanted in the eye, and
wherein the ridge member is adapted to apply the force to the contacted ocular tissue when the prosthesis is implanted at a location spaced apart from any other prosthesis.

95. (Previously Presented) The scleral prosthesis set forth in Claim 94 wherein the ridge member, when the prosthesis is implanted in the eye, exerts a force with respect to the eye to increase the working distance of the ciliary muscle of the eye.

96. (Previously Presented) The scleral prosthesis set forth in Claim 94 wherein the ridge member, when the prosthesis is implanted in the eye, exerts a force with respect to the eye to increase the amplitude of accommodation of the eye.

97. (Previously Presented) The scleral prosthesis set forth in Claim 94 wherein the outer surface is adapted to contact ocular tissue within a pocket surgically formed within the sclera of the eye.

98. (Previously Presented) The scleral prosthesis set forth in Claim 94 wherein the prosthesis is generally rectangular.

99. (Previously Presented) The scleral prosthesis set forth in Claim 94 wherein the body further has a base having an anterior edge and a posterior edge, wherein the ridge is located spaced apart from the anterior edge.

100. (Previously Presented) The scleral prosthesis set forth in Claim 86 wherein the outer surface of the base is planar.

101. (Previously Presented) The scleral prosthesis set forth in Claim 86 wherein the ridge extends along at least a portion of the first dimension of the base member.

102. (Previously Presented) The scleral prosthesis set forth in Claim 86 wherein the first dimension is about five millimeters and the second dimension is about two millimeters.

103. (Previously Presented) The scleral prosthesis set forth in Claim 80 wherein the prosthesis is made of one of a physiologically acceptable metal, a ceramic material, a synthetic resin, a reinforced composite material and a flexible material.

104. (Withdrawn) The scleral prosthesis set forth in Claim 80 wherein said the prosthesis is provided with an internal cavity.

105. (Withdrawn) The scleral prosthesis set forth in Claim 104 wherein said the internal cavity is filled with one of a fluid and a gel.

106. (Withdrawn) The scleral prosthesis set forth in Claim 104 wherein said the internal cavity is filled with one of water, a saline solution, an oil, silicone, collagen, and gelatin.

107. (Previously Presented) The prosthesis set forth in Claim 76 wherein the elongated body is curved along the long dimension.

108. (Previously Presented) A scleral prosthesis for implantation into an eye, the prosthesis comprising:

an arcuate base having a length that forms less than a complete circle; and
a ridge on a surface of the base, the ridge adapted to exert outward force on an overlying portion of the sclera of the eye without contacting any other prosthesis when the prosthesis is implanted.

Please add the following new claims:

109. (New) A prosthesis that contacts the sclera of an eyeball, said prosthesis comprising a body having a first end and a second end spaced apart from said first end such that no portion of said body overlaps any other portion of said body, said body having a planform that expands said contacted sclera to increase the effective working distance of the ciliary muscle of the eyeball, wherein each of said first and second ends lacks a mechanism for coupling to an end of another prosthesis.

110. (New) The prosthesis set forth in Claim 109 wherein said body further comprises a top surface that contacts ocular tissue within a pocket surgically formed within the sclera of the eyeball.

111. (New) The prosthesis set forth in Claim 110 wherein said top surface is circumferentially shaped and exerts an outward force on the scleral pocket to elevate the portion of the sclera attached thereto to increase the effective working distance of the ciliary muscle of the eyeball.

112. (New) The prosthesis set forth in Claim 110 wherein said body further comprises a means for stabilizing said prosthesis within said surgically formed pocket within the sclera of the eyeball.

113. (New) The prosthesis set forth in Claim 112 wherein said stabilizing means includes a bottom surface that contacts ocular tissue within said surgically formed pocket.

114. (New) The prosthesis set forth in Claim 113 wherein an ocular tissue contact area of said bottom surface of said body is at least substantially equal to an ocular tissue contact area of said top surface of said body.

115. (New) The prosthesis set forth in Claim 112 wherein said stabilizing means includes at least one of said first end and said second end that fixes said body within said surgically formed pocket.

116. (New) A prosthesis that contacts the sclera of an eyeball, said prosthesis comprising a body having a first end and a second end, said body having a planform that expands said contacted sclera

to increase the effective working distance of the ciliary muscle of the eyeball and further means for stabilizing said prosthesis within said surgically formed pocket within the sclera of the eyeball,
wherein said stabilizing means includes at least one of said first end and said second end that fixes said body within said surgically formed pocket, and
wherein said at least one of said first end and said second end has a partially concave top surface.

117. (New) A prosthesis that contacts the sclera of an eyeball, said prosthesis comprising a body having a first end and a second end, said body having a planform that expands said contacted sclera to increase the effective working distance of the ciliary muscle of the eyeball and further means for stabilizing said prosthesis within said surgically formed pocket within the sclera of the eyeball,
wherein said stabilizing means includes at least one of said first end and said second end that fixes said body within said surgically formed pocket, and
wherein said at least one of said first end and said second end has a partially convex top surface.

118. (New) A prosthesis that contacts the sclera of an eyeball, said prosthesis comprising a body having a first end and a second end, said body having a planform that expands said contacted sclera to increase the effective working distance of the ciliary muscle of the eyeball and further means for stabilizing said prosthesis within said surgically formed pocket within the sclera of the eyeball,
wherein said stabilizing means includes at least one of said first end and said second end that fixes said body within said surgically formed pocket, and
wherein said at least one of said first end and said second end has a partially concave bottom surface.

119. (New) A prosthesis that contacts the sclera of an eyeball, said prosthesis comprising a body having a first end and a second end, said body having a planform that expands said contacted sclera to increase the effective working distance of the ciliary muscle of the eyeball and further means for stabilizing said prosthesis within said surgically formed pocket within the sclera of the eyeball,
wherein said stabilizing means includes at least one of said first end and said second end that fixes said body within said surgically formed pocket, and
wherein said at least one of said first end and said second end has a partially convex bottom surface.

120. (New) A prosthesis for contacting the sclera of an eyeball, said prosthesis comprising:
a body having at least one end portion which is wider than an incision forming a scleral pocket for containing said prosthesis, a remainder of said body extending from said at least one end portion in a direction substantially perpendicular to a width dimension of said at least one end portion,

a bottom surface of said body having at least one concave region separated from an end of said body by a flat surface,

said at least one concave region having a radius of curvature of approximately five hundred microns,

whereby said prosthesis exerts an outward force on said scleral pocket to elevate a portion of the sclera attached thereto when said prosthesis is disposed within said scleral pocket, and wherein said at least one end portion is configured to extend beyond said scleral pocket.

121. (New) The prosthesis as set forth in Claim 120, wherein said body includes a major convex surface having a radius of curvature of approximately nine millimeters.

122. (New) The prosthesis as set forth in Claim 120, wherein end portions of said body are sloped.

123. (New) The prosthesis set forth in Claim 109, wherein at least one of the first and second ends has a partially concave or partially convex top surface.